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Résumé de l'article

Loin d'être des observateurs naïfs et crédules, les premiers Jésuites de Nouvelle-France (1611-1650) ont témoigné d'un scepticisme et d'un rationalisme appréciables dans leurs analyses de la nature. En dépit de la rhétorique de conquête spirituelle des *Relations des Jésuites*, et d'une concentration théologique sur le péché contenu dans toute la nature, y compris celle des hommes, la curiosité des missionnaires dépassait le strict domaine de la religion. Dans leurs enquêtes sur la spiritualité autochtone, comme dans leurs vérifications des prétentions qu'avaient des Autochtones d'accéder au domaine surnaturel, ces Jésuites ont affiché une attitude empirique. En cela, ils ont pris part à l'émergence d'une culture européenne de la raison scientifique.

# Science and Scepticism in the Early Mission to New France

PETER GODDARD

## Résumé

*Far from being naive and credulous observers, the first Jesuit missionaries to New France (1611-1650) were sceptical and rationalistic in their analyses of nature and natural forms of life. Despite the rhetoric of spiritual conquest found in the Jesuit Relations, and a theological focus on the sinfulness of all nature including the human, missionary curiosity extended beyond the narrowly religious. As a group, Jesuit missionaries were remarkably empirically minded when investigating native spirituality and when testing claims about the supernatural. They thus demonstrate affinity with the emerging culture of scientific reason in early modern Europe.*

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Pour le Levant, il fallait savoir le grec, le cophte, l'arabe, le turc et posséder quelques connaissances en médecine; pour l'Inde et la Chine, on voulait des astronomes, des géographes, des mathématiciens, des mécaniciens; l'Amérique était réservée aux naturalistes.<sup>1</sup>

## Jesuits, Missions and Early Modern Science

Chateaubriand observed that the Enlightenment's discourse about the New World owed much to the natural philosophy of Jesuit missionaries, especially the 18th-century

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Je tiens à remercier Yves Gingras de l'Université du Québec à Montréal, ainsi que les lecteurs anonymes de cet article pour leurs commentaires.

1. Chateaubriand, *Le génie du christianisme* (1802; reprint, 2 vols., Paris, 1859), 2: 150.

authors of *Lettres édifiantes* and contributors to the *Mémoires de Trévoux*. But what of the Jesuit missionaries who arrived in the great northern forests of Canada in 1611? Did they, as pioneers and as authors of the famous mission *Relations* (1633-1672), contribute to a "scientific" understanding of the "wilderness" continent and its peoples?<sup>2</sup> This article explores the ways in which Jesuits understood nature and the natural world in the early 17th-century Canadian mission.<sup>3</sup>

First-generation Jesuit missionaries to New France were more interested in human than non-human nature: their objective was the conversion of the Amerindian population, after all. However, missionary curiosity, though dominated by an austere spirituality, found outlet in inquiry into the way of life of the native peoples, who appeared to be living in a "state of nature" and whose conversion would depend on overcoming "nature." In the missionary analysis of the Amerindians and their environment, "wonder," or a sense of inexplicable marvel, was attenuated. Empiricism, or a rationally minded outlook, took its place. While retaining their absolute faith in Christianity and the conviction that God alone provided first causes to all phenomena, seventeenth-century Jesuits tended toward scepticism in their assessment of supernatural claims made by the Amerindians, and promoted natural-scientific explanations over miraculous ones. In short, these missionaries were hardly the innocents portrayed in much of today's historical and anthropological literature, where we encounter missionaries as regressive, medieval figures - men of faith engaged in concrete struggle against Satan.<sup>4</sup> This article argues that Jesuits in 17th-century New France reflected European knowl-

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2. I am aware of the anachronism of the English terms "science" and especially "scientist," a word introduced only in 1840 by William Whewell ("We need very much a name to describe a cultivator of science in general. I should incline to call him a Scientist"). In this article I wish to link the term "science" to the idea of an "empirical" approach to natural phenomena, motivated by curiosity, wonder, and a sense that all of nature coheres in a patterned and ultimately discernible way. Such an approach has been present in the West since Hellenistic Greece, but achieved its distinctive modern form in the scientific revolution of the sixteenth and seventeenth centuries. Nonanachronistic terminology includes "savant" or "philosophe" in French and "natural philosopher" in English. For the history of thinking about nature in Western culture, see Clarence Glacken, *Traces on the Rhodian Shore* (Berkeley, 1967), 171-460; for the "scientific" outlook see A.C. Crombie, *Styles of Scientific Thinking in the European Tradition*, 3 vols. (London, 1994).

3. This paper examines experience in the field, as opposed to the institutional study of the sciences, which commenced in Québec in 1659. While formal instruction in New France began in 1635, with the establishment of the college at Quebec, in 1659 the former missionary Jérôme Lalemant implemented a liberal curriculum, including philosophy and theology. The first public thesis defence took place in 1665. See Yves Lamonde, *La philosophie et son enseignement au Québec (1665-1920)* (Montreal, 1980), 48-9; Luc Chartrand, Raymond Duchesne and Yves Gingras, *Histoire des sciences au Québec* (Montreal, 1987), 13-73.

4. Depictions of the scientific progressiveness of missionaries to Canada have varied over time. A generation ago, seventeenth-century Jesuit missionaries could be portrayed as scientifically well informed, although limited by their religious commitment: hence the inclusion of their writing in such collections as Trevor H. Levere and Richard A. Jarrell, eds., *A Curious Field-book: Science & Society in Canadian History* (Toronto, 1974), 27-33. In the 1980s,

edge in transition: they deployed rationalism and empiricism alongside traditionally religious and enchanted viewpoints in understanding this new world.

The seventeenth century augured well for a conjuncture of mission and the new western science. The Society of Jesus, which was founded in 1540 as a new type of religious order, promised the possibility of a fusion between the evangelical and the rational. Its members were highly educated and its culture was cosmopolitan. The Jesuit bias towards activism in religious life revised the monastic ethos of other-worldly spirituality in favour of this-worldly curiosity, including the study of the secondary causes which might be found in nature or in human communities. Although formally committed to Aristotelian Scholasticism, which was taught in a programmatic form in Jesuit universities in Portugal, Spain, Italy and Germany, Jesuit institutions favoured the new learning: recruitment was biased towards those social milieux which supported the emerging culture of "reason," be they legal, bureaucratic or scientific.<sup>5</sup> The Jesuits' association with the power elites of Catholic Europe ensured that members of the order had contact with "courtly science."<sup>6</sup> The order's dominant educational system gave nearly every missionary, including those sent to Canada in the 17th century, substantial upper-level classroom experience, teaching the liberal arts but also the physical sciences, before his departure to the mission fields.<sup>7</sup> The official ban on novelty in scientific teaching, as instituted by General Claudio Acquaviva in 1615 and reinforced in the Galileo affair 1615-1633,<sup>8</sup> did not impinge on Jesuits who wished to explore nature. With its notions of organic connectivity and hierarchical causality, such activity fulfilled Ignatian spirituality's injunctions to learning, practicality and diligence.<sup>9</sup> The scientific thrust in the evangelical mission might thus remain unaffected by the onset of "intellectual rigor mortis" in Jesuit astronomy.<sup>10</sup>

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however, it became *de rigueur* to emphasize the retrogressivity of the missionary outlook: as these apparently leading figures in the European colonization of native America were targeted as part of the advanced critique of European hegemony, it has become awkward to associate them with any kind of enlightenment. Hence the crude representation of the Jesuit world-view in recent work by Trigger, Anderson, et al, as discussed below, n. 47.

5. A. Lynn Martin, *The Jesuit Mind: the Mentality of an elite in early modern Europe* (Ithaca, 1988).
6. For accounts of "courtly science" and the institutional support for scientific activity in the early modern period, see Bruce Moran, ed., *Patronage and Institutions: Science, Technology, and Medicine at the European Court 1500-1750* (Rochester, 1991), and Roy Porter and Mikulas Teich, eds., *Scientific Revolution in National Context* (Cambridge, 1992).
7. See François de Dainville, *L'éducation des jésuites* (Paris, 1978), 311-470 for the scientific and pedagogical culture of French Jesuits.
8. Richard J. Blackwell, *Galileo, Bellarmine, and the Bible* (London, 1991), 140-57. Jesuit colleges received ample warnings about the dangers of atomistic and mechanical physics after 1632. V. Ferrone, M. Firpo "From Inquisitors to Microhistorians: A critique of Pietro Redondi's *Galileo eretico*," *Journal of Modern History* 58 (1986): 502.
9. Steven J. Harris, "Transposing the Merton Thesis: Apostolic Spirituality and the Establishment of the Jesuit Scientific Tradition," *Science in Context* 3 (1989): 29-65. See also Georges Minois, *L'Eglise et la science. Histoire d'un malentendu* (Paris, 1990), 2: 353-63.
10. Blackwell, *Galileo, Bellarmine and the Bible*, 153.

Early modern western science could play an important role in religious conversion by demonstrating the superior effectiveness of European knowledge, or at least by putting the missionary on an equal footing with the elites he came to convert. It was part of a missionary's self-confidence: faith he had, but reason might be supplied by natural philosophy. As the late Joseph Needham demonstrated, early modern missions to the Chinese court were reliant on Western conceptions of science, particularly where these intersected with Chinese cosmological concerns.<sup>11</sup> In encounters with an advanced scientific culture, within a civilization which seemed to embody an admirable rationalism and order, missionaries were constrained to demonstrate a comparable level of sophistication, as well as to learn respectfully from their hosts. Scientific demonstration, emerging as a universal language, was integral to the civility which characterized the encounter between Chinese elites and these educated Europeans.<sup>12</sup> Neither the Jesuits nor other French religious orders were involved in the 17th-century Chinese mission. However, the encounter was widely publicized, especially during the "Chinese Rites" affair, wherein the scientific rapprochement with the Ming court could be portrayed as laxist collaboration with pagan belief. In Asia, the French were active in Siam, Tonquin and Cochinchina; they did not forego the opportunity to deploy science alongside other arguments for Christianity. An inventory of one of four Siamese seminaries taken after the 1688 revolution reveals a tremendous supply of scientific equipment, including mathematical instruments, astrolabes, compasses of all kinds, protractors, a "grande lunete [sic] d'approche pour speculer les Astres," numerous smaller telescopes, one "grand microscop bien conditionné," another mediocre one, and other optical equipment and meteorological apparatus.<sup>13</sup> In Siam, as in China, western science was a critical element in the relationship between French missionaries and national elites: the laboratory-classroom drew the best students and future leaders of this society.<sup>14</sup>

Clocks and kaleidoscopes appeared in the Canadian mission field, and a "lunette de galilée," or "Galileo's lens," the newly developed telescope, was exchanged as a New Years' gift at Québec in 1646. Observations about heavenly phenomena, flora and fauna were relayed to a *dévot* audience back in France.<sup>15</sup> Additionally, missionaries occasionally let their scientific expertise, if only the almanac-gleaned variety, provide

11. Joseph Needham, *Science and Civilisation in China*, 6 vols. (Cambridge, 1959), 3: 437-61.

12. Jonathan D. Spence, *The Memory Palace of Matteo Ricci* (New York, 1984).

13. France. Archives Nationales, Series MM Vol. 523, fols. 140-68, "Memoire General du 9 Novembre 1688 de tout ce qui se trouva dans les Seminaire de St. Joseph le jour que les escrivaains et autres officiers du feu du Roy de Siam y entrerent et s'en rendirent comme maistres et gardiens pour faire le rolle de tous les meubles qu'ils confiquerent dans la suite," fol. 152v.

14. Michel Jacq-Hergoualc'h, *L'Europe et le Siam du XVI<sup>e</sup> au XVIII<sup>e</sup> siècle. Apports culturels* (Paris, 1993), 102-4; for the Jesuit contribution, see also Raphael Vongsuravatana, *Un jésuite à la cour de Siam* (Paris, 1992), 28-40.

15. Citations from *Relations* will be taken from Reuben Gold Thwaites, ed., *The Jesuit Relations and Allied Documents*, 73 vols (Milwaukee, 1896-1901). Clock and gadget references are found in 15:35; and 39:131. Astronomical observations, including comets, eclipses and parhe-

arguments in favour of conversion. The accurate prediction of a lunar eclipse in January 1646 prompted a neophyte to rouse his companions: "Come and see how truthful are our preachers; and strengthen yourselves, by this argument, in the belief of the truths which they preach to us."<sup>16</sup> Unfortunately, such demonstrations were likely to draw the charge of sorcery from the unconverted, whose afflictions of smallpox and other diseases were linked to the magic of the black robes.<sup>17</sup> While early Jesuits clearly relished the opportunity to orchestrate scientific displays in their "eschole de la Verité,"<sup>18</sup> such occasions were comparatively rare amidst a technologically unsophisticated people whom, unlike the Chinese or the peoples of South Asia, Jesuits regarded as too backward to appreciate western science, and whose primary need was basic religious instruction, if not primary human succour.<sup>19</sup> Given the European culture of science which supported the Jesuits, and the major role of science in the missionary enterprise in Asia, Canada in the early seventeenth century, with its "stone-age" populations, was a terrain of intellectual underdevelopment.

### Acosta, Augustine and Natural History

If astrophysics had only a limited place in the Canadian mission, natural history could hope for more prominence. Unexpected plants and beasts were omnipresent on this continent: someone had to make sense of them, and introduce them to the European audience, which was receptive to accounts both fantastic and realistic.<sup>20</sup> By 1600, moreover, it was possible to consult the authoritative natural history and ethnology established by the Jesuit José de Acosta in his 1590 *Historia natural y moral de las Indias*, which in frequently reprinted translation was well known to French readers.<sup>21</sup>

Acosta, missionary to the Inca peoples of Peru from 1572 to 1586, offered a positive valuation of natural history as an adjunct to mission work in the Americas. Acosta argued that nature was a theatre of creation, where God's work was to be admired. More

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lia appear more frequently in later *Relations*. A chapter dealing in such data was included in the 1664-5 *Relation* so that they might "servir de fondement aux curieux, pour en tirer quelques nouvelles connoissances," 50: 68ff. For Jesuit astronomy, see Peter Broughton, "Astronomy in 17th-Century Canada," *Journal of the Royal Astronomical Society of Canada* 75 (1981): 175-208.

16. *Jesuit Relations and Allied Documents*, 39: 145.

17. *Jesuit Relations and Allied Documents*, 14: 53, 105, 253.

18. *Jesuit Relations and Allied Documents*, 12: 36.

19. Luca Codignola investigates the stereotype of the primitive savage in "The Holy See and the Conversion of the Indians in French and British North America, 1486-1760," *America in European Consciousness 1493-1750*, ed. Karen Ordahl Kupperman (Durham, 1995), 204-5.

20. See Antonello Gerbi, *Nature in the New World. Columbus to Gonzalo Fernández Oviedo*, trans. Jeremy Moyle (Pittsburg, 1985).

21. José de Acosta, *Historia natural y moral de las Indias*, ed. Edmund O'Gorman (Mexico, 1962). The first French edition was titled the *Histoire naturelle et morale des indes tant orientales qu'occidentales*, trans. Robert Regnault (Paris, 1598); subsequent editions appeared in 1606, 1610, 1617 and 1618.

importantly, the study of natural history could only benefit the conversion project, for everything one knew about these uncivil peoples could furnish advantage. It was a way of understanding the Amerindian in *su mundo*.<sup>22</sup> Natural, as opposed to civil history was the appropriate way of understanding peoples who still lived "in nature," and whose sociability and needs were derived from pre-civil conditions. Acosta described this natural life in Aristotelian terms as the first stage of human development or, in eschatological terms, as the "time of the Law of Nature."<sup>23</sup> In their pre-contact, unevangelized state, the Amerindians fell subject to the laws governing nature, so little were they elevated above the beasts, so long isolated were they from revelation. Their natural history – their relations with their environment – was a part of their moral history, or the account of their progress towards the civilized state of Christian perfection.

Acosta justly dominates the early natural history of the New World, and we might expect to find his influence preponderant among Jesuit missionaries to New France. We often assume that an international religious order which was dominated at that time by its Spanish branch would display a high degree of conformity, and that Acostian analysis would become dominant in pastoral missiology in New France, as elsewhere in the Catholic world. Jesuits borrowed from Acosta in developing a conversion strategy based on language acquisition, sedentarization and education.<sup>24</sup> Long-duration missions in which missionaries gained fluency in native languages, and lived in close proximity to Algonquian and Iroquoian peoples, gave Jesuits unprecedented opportunity to follow in the footsteps of the first great cultural ethnologist.

Yet, for all their delight in the prediction of solar phenomena, and despite the occasional effort to investigate the phenomena of the boreal world, the first Jesuits in New France did not embrace the positive appraisal of nature study. Disappointingly, no equivalent to the *Historia naturale y morale* was produced for the northern Americas; this encyclopedic effort would be carried out on a limited and practical scale by Pierre Boucher, the governor of Trois-Rivières, in the 1660s.<sup>25</sup> Rather, seventeenth-century French Jesuit accounts stressed the *moral* history of the native, and spent comparatively little time understanding the Canadian environment.

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22. Acosta, *Histoire naturelle et morale*, Book III ch. 1 "Que l'histoire naturelle des Indes est plaisante & agreable: Toute histoire naturelle de soy est agreable, & de grand profit à ceux qui veulent eslever leur discours & contemplation en haut, en ce qu'elle les excite à glorifier l'Atheur de toute la nature." For Acosta's evolutionary concepts of nature and culture, see Luis Martín, "The Peruvian Indian through Jesuit Eyes: The Case of José de Acosta and Pablo José de Arriaga," in *The Jesuit Tradition in Education and Missions*, ed. Christopher Chapple (London and Toronto, 1993), 201- 13.

23. Acosta pursued this theme in *De procuranda Indorum Salute* (1580, reprinted Madrid, 1984). Anthony Pagden has investigated Acosta's ethnology in his seminal study *The Fall of Natural Man. The American Indian and the Origins of Comparative Ethnology*, 2nd, ed., (Cambridge, 1986), 146-200.

24. See Peter Goddard, "Converting the *sauvage*: Jesuits and Montagnais in seventeenth-century New France," *Catholic Historical Review* (forthcoming).

25. Pierre Boucher, *Histoire veritable et naturelle des moeurs et productions du pays de la Nouvelle-France vulgairement dite le Canada* (1664; reprinted Boucherville, 1964).

This failure to produce an Acostian natural history reflects the incomplete transmission of ideas and philosophy among early modern Jesuits and, indeed, shows the extent to which emerging scientific discourse encountered institutional and cultural hindrance. In France, the Society was insecurely established, and post-Religious Wars (1562-1598) confessional division promoted ideological rigidity. In an increasingly nationalist climate, French Jesuits were reluctant to follow, or to be seen to follow, a Hispanic "party line," which might result in their vilification by the Gallican opposition for reproducing Spanish values and assumed biases in their activity.<sup>26</sup> French Catholic spirituality as well as philosophy, up to the middle of the seventeenth century at least, appears to have been resistant to the neo-Thomism championed by Jesuits at the Universities of Spain and Portugal.<sup>27</sup> Instead, both theology and university curricula were dominated by post-Religious War pessimism about the capacities of nature, and by the contemporary preoccupation with sin, which has been described as an "Augustinian backlash."<sup>28</sup>

In the view current in 17th-century France, then, which Michel Foucault has described as quintessentially "classical," the natural world, with its untamed, animal quality, was in a sense "anti-nature," to be contrasted with the reasonable soul and spirit of the properly disciplined human.<sup>29</sup> Far from being the romanticized repository of order and harmony which it would become in the Enlightened view of the 18th century, nature was a place of flux, unfinished and inert. In social and religious terms, which would be foremost in the missionary mind, conversion and, indeed, civilized life itself, was dependent upon the transformation of the natural utterly beyond recognition. Grace had little role in nature: left to his own devices, natural man was as good as lost. True virtue was thus impossible in the state of nature. The myriad definitions of "nature" depended upon this dichotomy and strict polarization, in which nature is in every case held to be inferior, a subject less worthy of study than anything pertaining to God or the works of civilized humanity.<sup>30</sup>

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26. For anti-Spanish ideology in France, which generated the charge that Jesuits spoke the "langage d'Espagne," consult the writings of Gallican critics like Pierre de l'Estoile and the elder Antoine Arnauld. Henri Fouquier, *Histoire de la Compagnie de Jésus des origines à la suppression* (Paris, 1910), 2: 361-368. See also Myriam Yardeni, *La conscience nationale en France pendant les guerres de religion 1559-1598* (Louvain, 1971), 317-30.

27. L.W.B. Brockliss, "The Scientific Revolution in France," in *The Scientific Revolution in National Context*, 57.

28. Robin Briggs, *Communities of Belief: Social and Cultural Tensions in Early Modern France* (Oxford, 1989), 239; Charles E. Williams, *The French Oratorians and Absolutism, 1611-1641* (New York, 1989), 7-29; 90-3.

29. Michel Foucault, *Madness and civilization*, trans. R. Howard (New York, 1973), 77-8; Christian Marouby, *Utopie et primitivisme. Essai su l'imaginaire anthropologique à l'âge classique* (Paris, 1990), 71-2.

30. Furetière, *Dictionnaire* (Paris, 1690). In specifying 15 variations on the word *nature*, Furetière suggests that the term is used figuratively in moral discourse, including theology: Man in the state of nature is in sin: "Il n'y a que les Sacrements à la grace qui luy fassent vaincre les passions de sa *nature* fragile & corrompue." *Nature* also denotes the entire known universe, "toutes les choses créées & incréées, la spirituel et le corporel."



While nonstandard in Jesuit theology – in the sense of deviating from Ignatian precept about the presence of God in all things<sup>31</sup> – this pessimism about nature emanated from 17th-century French Jesuit establishments. The pedagogue Louis Lallemant (1587-1635), who exerted spiritual influence on such key figures of the Canadian mission as Paul Le Jeune, Jean de Brébeuf and Paul Ragueneau, linked pastoral anthropology and nature thus:

Après l'incarnation, nous ne devons plus rien admirer. Il est dangereux de donner notre admiration aux créatures. Il n'y a qu'un dieu incarné qui la mérite. Admirer quelque chose dans l'ordre de nature, c'est marquer le peu de vertu qu'on a.<sup>32</sup>

In Lallemant's understanding, the religious mind was to be oriented towards God and theological mystery, rather than the world and natural wonder, just as God was more interested in the individual soul than in whatever else inhabited his creation: "Dieu s'applique plus au gouvernement surnaturel d'un cœur où il regne, qu'au gouvernement naturel de tout l'univers, & qu'au gouvernement civil."<sup>33</sup> Nature was thus derivative; God was better approached directly rather than through his created products. Lallemant goes on to position nature and the human (rational or civil) beneath and inferior to the supernatural, in a predictable scholastic hierarchy. Humans, emanating from corrupt nature, must struggle against their inclinations, for such inclinations are at root animal and base. "C'est pour nous un malheur extrême de pouvoir trouver de la satisfaction dans les créatures, pour lesquelles nous ne devrions avoir que du mépris & du rebut." Too close attention to the natural interfered with the pursuit of that "nudité de l'Esprit" which signified closeness to God. According to Lallemant's admittedly extreme view, which was designed to counter an excessive attachment to worldly activism, and which provoked some suspicion from Jesuit authorities, there is no chance of arriving there following either human reason or "la prudence naturelle," and it would not be found in natural wonder.<sup>34</sup> In this view, natural history, the purposeful inquiry into the workings of nature, was tantamount to superstition, or at very least the misdirection of spiritual energy and interest.<sup>35</sup>

Lallemant accordingly suggested that the purpose of mission work in Canada was not to expand one's knowledge or to participate in a general enlightenment, but rather

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31. John W. O'Malley, *The First Jesuits* (Cambridge, Mass., 1993), 68. The expression is Jeronimino Nadal's; O'Malley points out that "Ignatius never said it so boldly," but that the sense pervades the Jesuit "way of proceeding."

32. Louis Lallemant, *Doctrine spirituelle*, ed. Pierre Champion (1696; reprinted Avignon, 1781), 269. Champion's presentation of Lallemant's theology was based on the compilation by Lallemant's contemporary Jean Rigoleuc (1585-1658) and on the notes of Jean-Joseph Surin (1600-1665).

33. Lallemant, *Doctrine spirituelle*, 41.

34. Lallemant, *Doctrine spirituelle*, 48, 50, 56.

35. The Jesuit Estienne Binet posed a contrary view in his *Essay des merveilles de nature, et de plus nobles artifices* (Paris, 1621). It seems to me that the gloomy spiritualism of Lallemant and his "school" had greater impact among missionaries than the chirpy appraisal offered by Binet. See Sophie Houdard, "Quand la Nature parlait," *Littératures classiques* 17 (1992): 245-54.

to seek a reward of a different sort. The Canadian mission was "plus féconde en travaux & en croix; elle est moins éclatante, & contribue plus que les autres à la sanctification de ces missionnaires."<sup>36</sup> Lallemand's combination of pessimism about the capacities and prospects of nature study, combined with a gloominess about the purpose of the mission, pervades Canadian missionary attitudes at least until mid-century. Few texts express wonder and enchantment at the boreal world or its peoples; for most, Canada is a charmless environment, rife with physical and psychical obstacles to the apostolic mission. For most, this was "une pénible mission,"<sup>37</sup> characterized by its hardship, rather than its opportunities for intellectual and aesthetic satisfaction. It was the site to observe the chasm between the created and the divine, and also the workings of grace, the only possible redeemer of this harsh land. The lugubrious atmosphere of epidemic disease further concentrated attention on God, and the scale of the tragedy seemed to humble human attempts at explanation. In very few cases before 1650 was disease attributed to environment: it remained the great mystery, comprehended as divine justice, or the "scourge of God,"<sup>38</sup> even while missionaries attempted to ameliorate its effects using empirical measures developed over the course of the European campaign against the plague.<sup>39</sup>

The seventeenth-century missionary's inquiry into "nature," then, was drenched in an *a priori* pessimism. Such inquiry was understood as directed towards the "natural" element of human behaviour, thus precluding consideration of the non-human. Yet missionaries were analytical and empirical in dissecting the behaviour of the Algonquians and Iroquoians. Indeed, while their spirituality inclined them away from nature study, it provided a means of psychological and behavioural analysis. Jesuit inquiry employed language and concepts derived from what might be described as at least a protean sort of "system" of moral classification favoured by spiritualist thinkers. Consider the system developed by missionary practitioner and pedagogue Jean Rigoleuc (1595-1658), also a disciple of Louis Lallemand, and a contemporary of the first generation of Jesuit missionaries to New France.<sup>40</sup> In a scheme entitled "les trois moyens de se connaître," Rigoleuc analyzes the "way of nature and sense," which is contrasted to the ways of passion and sin (products of civilized life) on one hand, and grace (the divine) on the other.<sup>41</sup> Divided into specific qualities, natural behaviour is sensual, inconstant, flighty, light, unchecked, unthinking, lacking patience, given to quick anger and frustration.

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36. Lallemand, *Doctrine spirituelle*, 10.

37. "Lettre circulaire sur la mort de Paul Lejeune," *Monumenta Novae Francia*, ed. Lucien Campeau, 5 vols. (Rome and Québec, 1967-1993), 2: 377.

38. *Jesuit Relations and Allied Documents*, 39: 141.

39. Jesuit responses to epidemic disease are investigated in A.Lynn Martin, *Plague? Jesuit Accounts of Epidemic Disease in the Sixteenth Century* (Kirksville, Mo., 1996). While Galenic medicine had not been decisively challenged in Europe, secular and religious authorities were developing a more active stance in combatting epidemic disease: Jesuits, through their commitment of activism but also through their concern to conserve health in order to serve God more effectively, shared in the constructive approaches to disease. See also Carlo M. Cipolla, *Public Health and the Medical Profession in the Renaissance* (Cambridge, 1976).

40. Pierre Champion, *La vie du pere Jean Rigoleuc de la Compagnie de Jesus. Avec ses traités de devotion et ses lettres spirituelles* (Paris, 1686), preface.

41. Rigoleuc, *Traitez de devotion*, 309.

Reduced and dissected, this is the nature that Jesuits were interested in exploring in Canada, and this framework, in which "natural" implied the tendency to sin, governed their inquiry. The important point is that Jesuits conceived of these human behavioural attributes in the form amenable to quick analysis; in this sense the checklist could be said to form the foundation of empirical method in the social sciences, especially psychology.

Using this checklist, the first Jesuit missionaries to New France assessed and evaluated sin's effects on native life in order to render certain their prescriptions for conversion. Curiosity about natural phenomena tended to be marginalized, and the vast bulk of early mission writing concerns the conversion project as construed in moral terms. With the possible exception of "illusion," which leads to a discussion of dreams and the unconscious,<sup>42</sup> most of the analysis of native life ascribes behaviour to the direction of the free will, the way that natural peoples behave when unconstrained by the Christian moral code. Indeed, by asserting sin as a causal principle in the dynamic of native society, and moralizing social behaviour, it tended to undermine broader hypotheses about their lives and their relations to their environment. Yet, at the same time, it represents an empirical approach to the problems of conversion. Such an attitude underlies the deplorable censoriousness of Jesuit accounts of native life, and may have furnished the stereotype of the morally degraded aboriginal against which we struggle even today. What is important to note in this account, however, is that Jesuits assessed their native charges in terms of a carefully constructed scale of human behaviours (as opposed to fundamentalist chauvinism or simplistic manicheism).<sup>43</sup> The result is much well-organized data that is ethnologically useful, but which must be deciphered through the quasi-rational analytical framework of their 17th-century religious outlook. This social science kind of investigative framework is close to inquisition, a word which, in English, French or Spanish, is tainted by its association with fanaticism, but which may nonetheless provide a link with the modern scientific method.

### **Inquisition (Investigation) and Scepticism**

In his *Relation* of 1637, Paul Le Jeune wrote that he had sent to his superior in Paris a tooth-marked stone which had been held red-hot in the mouth of a "sorcerer," as witnessed by his colleague Paul Pijart.<sup>44</sup> In the episode, even without knowing what happened at the Paris end, we may detect traces of traditional credulity – did the sorcerer possess the capacity to overcome nature? – but also scepticism with regard to the super-

42. Jesuits would later treat this subject at a more sophisticated level. See Pierre Carheil's 1669 observations in *Jesuit Relations and Allied Documents*, 54: 53ff.

43. This argument has been made convincingly, although on a limited scale, by Charles Principe in response to recent revisionist accounts of Jesuit anthropology. Charles Principe, "A Moral Portrait of the Indian of the St. Lawrence in One *Relation* of New France, Written by Paul Le Jeune, s.j.," *Canadian Catholic Historical Association Historical Studies*, 57 (1990): 29-50. Principe sees the missionary framework as one derived primarily from Thomism, which optimistically saw grace in nature.

44. *Jesuit Relations and Allied Documents*, 12: 23.

natural, which resulted in the careful examination of the evidence, and its subjection to further analysis. This episode, which seems to involve a test of supernatural claims, suggests that principles common to science were infiltrating a religious worldview. This section of the present inquiry examines the nature of missionary scepticism, and shows how it formed a bridge to rationalism, or belief in the rule-governed empirically knowable universe.

French Jesuits' confidence in their enterprise as one proceeding according to reason is manifest in the absence of any discourse of the fabulous, and in the firm control of the expression of wonder, fundamental to protean science.<sup>45</sup> A cyclopic monster might grace François-Joseph Lafitau's 1724 *Moeurs et coutumes des sauvages américains*,<sup>46</sup> but this apparition had not been borrowed from earlier mission accounts, where monsters are conspicuously absent. Jesuit writings from 1616 onwards can be characterized by their lack of credulousness, their straightforward and empirical approach to natural phenomena.

Among modern and typically highly secularized historians, it is conventional wisdom that missionaries believed that the Devil orchestrated the lives and beliefs of the Amerindians, generated resistance to the faith, and indeed was responsible for the forsaken and desolate character of the great Northern forests. Such a belief, bordering on the facile, allows the historian to exploit a position of superiority over the religious mind. We, after all, claim the Enlightenment and the even further liberation of the post-modern as our heritage, and our rectitude stands in contrast to the fanaticism and narrow-mindedness of our European forebears.<sup>47</sup>

Diabolism played an important role in the analysis of native life in sixteenth-century New Spain,<sup>48</sup> and can be described as a property of early modern religious discourse, evident in the persecution of witches and the demonization of religious minorities in Europe and colonial America. However, 17th-century Jesuits tended to

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45. L. Daston, "Wunder, Naturgesetze und die wissenschaftliche Revolution des 17. Jahrhunderts," *Jahrbuch der Akademie der Wissenschaften in Göttingen* (1991): 99-122.

46. J.-F. Lafitau, *Moeurs et coutumes des sauvages américains comparées aux mœurs des premiers temps*, 2 vols. (Paris, 1721), 2: 205. Lafitau stands as the primary contributor to early anthropology of the Canadian peoples. See Chartrand et al., *Histoire des sciences au Québec*, 68-70.

47. For the commonplace view that the Devil was at the centre of missionary obsession, see Bruce Trigger, *Children of Aatensic: A History of the Huron People to 1660* (Montreal, 1976), 503; Karen Anderson, *Chain Her by One Foot. The Subjugation of Women in Seventeenth-Century New France* (New York, 1991), 17-21, 29; William Eccles, *France in America*, 2nd ed. (Markham, 1990), 45; J. Baird Callicott, "Traditional American Indian and Western European Attitudes Toward Nature: an Overview," in Max Oelschlaeger, ed., *Postmodern Environmental Ethics* (Albany, 1995), 193-219. These progressive scholars echo the hundred-year old prejudices of Francis Parkman, who in *The Jesuits in North America* [1867] stated that demonic resistance to their mission was "an unfailing consolation to the priests." *France and England in North America*, 2 vols. (New York, 1983), 1: 487.

48. Fernando Cervantes, *The Devil in the New World* (New Haven and New York, 1994).

doubt claims about the supernatural among the *sauvages* of New France.<sup>49</sup> Of course, the Devil was prominent in all manner of pronouncements about the mission campaign itself – Satan was held responsible for reverses in the conversion program and for the wasting attacks of the Iroquois against the Hurons and Algonquians allied to the French at Québec. The Devil also served as a kind of default position in explaining native spirituality: to the extent that the Amerindians had a religion, and a religion contrary to Christian tenets, it was inspired by the Devil – even if its practitioners remained unaware. Yet in the key area – from the point of view of modern science – of the operation of supernatural forces in nature, the Jesuits did not believe that the Devil was at work. This reservation about the supernatural meddling of this great adversary of humanity meant that Jesuits looked first for other causes – natural, social and moral – of mysterious phenomena. If not in their look at nature, then perhaps in their look at the supernatural we shall find elements of an emerging rationalism.

According to the commonsense view of traditional Christian monotheism, the Devil orchestrated opposing religions, which were defined as idolatrous. The Devil animated resistance to God in benighted souls, enjoining them in their ignorance to erect gross cults of anti-Christian worship – Aztec sacrifices and the witches' Sabbath were alike ceremonies in his honour. Jesuits could have interpreted Amerindian religion in the same light: after all, Algonquian and Iroquoian peoples appeared to pay homage to spirits not Christian, and believed in forms of consciousness – animism, dream divination, metempsychosis of souls – which could not be reconciled with orthodox Christianity. Yet rather than recognizing diabolical agency in native spirituality, missionaries described it as misdirection of mental powers, resulting in incoherent ignorance. They refused to believe that autochthonous religion was what the natives said it was. Instead, a whole range of ritual, ceremonial behaviour, feasting and fasting was "deconstructed" as sinful social practice, but not elevated into coherent religious system. In part, this reflected the Jesuit conviction that these northern native peoples were too primitive to actively follow the Devil. "If there are any superstitions or false religions in some places, they are few. The Canadians think only of how to live and to revenge themselves upon their enemies. They are not attached to the worship of any particular divinity," said Paul Le Jeune in 1632.<sup>50</sup> Far from providing evidence of diabolism, their devotions were simply "ridiculous."<sup>51</sup>

This scepticism about the reality of diabolical religion reflected a sort of religious rationalism, in which faith was seen to accord with reason. Jesuits recognized the figure of "Manitou" in most discussions of native spirituality, and some Jesuits were willing to accord Judeo-Christian attributes to elements of the autochthonous cosmology.

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49. For a more comprehensive treatment of Jesuit diabolism, especially its theological aspect, see Peter Goddard, "The Devil in New France: Jesuit demonology 1611-1650," *Canadian Historical Review* (forthcoming).

50. *Jesuit Relations and Allied Documents*, 5: 35.

51. *Jesuit Relations and Allied Documents*, 6: 227.

Yet the missionaries did not automatically conflate the Manitou with the Devil as an oppositional figure. Instead, they saw native belief as a function of ignorance. It was superstition, rather than religion. "When the mind has once strayed from the path of truth, it advances far into error."<sup>52</sup>

Scepticism is apparent in the missionaries' treatment of reports suggestive of supernatural meddling. Native informants related instances of sudden fits and manic acts, acts of physical violence which left no trace and instances where blood appeared without sign of injury. But when missionaries pressed them, informers admitted that these were only rumours, which could not stand up to explanations centred on natural causes or the fraudulent nature of native religion. "It's only necessary to make strong objections to their fables, to arrest them and cause them to retract."<sup>53</sup> What, in the early modern rationalist outlook, is traditional belief, but fable?

Missionary scepticism is most apparent in discussion of the Amerindian shamanism. Shamans were key figures in Algonquian and Iroquoian society, and often, understandably, the organizers of resistance to Christian encroachment. Rejecting any possibility that the shamans might possess religious revelation, the missionaries labelled them as *sorciérs*, and also *magiciens prétendus*, *charlatans*, and *jongleurs*. Missionaries were always alert to the possibility that Satan might manipulate such purveyors of benighted tradition. Thus the "sorcerers" had to be investigated. Such inquisition usually resulted in a finding that the mysterious and magical happenings proclaimed by sorcerers were of human, not supernatural invention. Paul Le Jeune suspected that "the sorcerer invents every day some new contrivance to keep his people in a state of agitation, and to make himself popular."<sup>54</sup> A shamanic rival, Pigarouich, "was neither Sorcerer nor Magician, but would like very much to be one. All that he does... is nothing but nonsense to amuse the Savages."<sup>55</sup>

Confrontation with shamans also offered Jesuits the opportunity to exercise superior rationality, to triumph in a classroom in the woods, and to demonstrate the power of their pedagogy. A rudimentary scientific sense could be part of this, as when Paul Le Jeune confounded a shaman by agitating needles with an unseen magnet. Again, though, the danger of appearing too much the sorcerer was always present when Jesuits attempted to play the scientific card: Le Jeune had to protest that his trick "se faisoit naturellement," not with diabolical participation.<sup>56</sup>

The occasional breakdown of rationalist explanation in the face of inexplicable phenomena revealed the tension between rationalism and traditional credulity. A neophyte spoke of a "Genie du iour" he encountered in a forest, who conveyed accurate infor-

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52. *Jesuit Relations and Allied Documents*, 6: 205-207.

53. *Jesuit Relations and Allied Documents*, 5: 159.

54. *Jesuit Relations and Allied Documents*, 6: 193.

55. *Jesuit Relations and Allied Documents*, 6: 199-201.

56. *Jesuit Relations and Allied Documents*, 11: 261.

mation about impending misfortune. This was the Devil.<sup>57</sup> Wonder about the provenance of movement in the "shaking tent" ceremony revised some views of the Devil: if physical supports could not be seen, some supernatural force must be responsible for the agitation.<sup>58</sup> From an initial stance of scepticism, mission superior Paul Le Jeune apparently came to believe that the Canadian sorcerers sometimes flew, and could carry burning stones in medicine pouches without manifestations of heat or smoke. But even when scepticism wavered in the face of the unknown, the appeal was made to empirical and not traditional authorities. Hence the sending of the tooth-marked stone to Paris. Perhaps such phenomena indicated the presence of a supernatural agency who communicated "sensiblement" with the natives,<sup>59</sup> but the practice of inquisition substantially checked the traditional credulity about the devil's meddling in the affairs of men.

Confident and experienced missionaries were inclined to total scepticism about supernatural agency. Paul Ragueneau, who served as the head of the Huron mission from 1645 up to its collapse in 1649, refuted the claims that the Devil was active among these peoples, and offered instead a social and natural account of native spirituality. "It is easy to call irreligion what is merely stupidity, and to take for diabolical working something that is nothing more than human; and then, one thinks he is obliged to forbid as impious certain things that are done in all innocence, or, at most, are silly, but not criminal customs."<sup>60</sup> He argued that missionaries would supplant such beliefs through education: "These could be abolished more gently, and I may say more efficaciously, by inducing the Savages themselves gradually to find out their absurdity, and to laugh at them, and to abandon them, – not though motives of conscience, as if they were crimes, but through their own judgement and knowledge, as follies."<sup>61</sup>

Ragueneau spoke the language of reason, and was by far the most sceptical, if not scientifically inclined, of the missionaries included in this study. Those who claimed that spirits spoke through their dreams exhibited a purely social phenomenon: the gullibility of the flock. Purported sorcery was another misguided and vain expenditure of social energies, lacking any connection with the supernatural. Ragueneau found no rational (*raisonnable*) foundation for the belief that "en effet il y en ait icy qui se meslent de ce mestier d'Enfer." Illness said to be caused by spells proved to be "tres-naturelles & ordinaires"; whim and prejudice motivated destructive accusations.<sup>62</sup> The mission would demystify the alleged mysteries of native life, and would proceed to convert through education. As construed by Ragueneau, mission was not about some cosmic conflict between God and Satan, but the extension of reason to a backwards and undeveloped people: "the evil is less than we judged at first, and of far less extent than had appeared."<sup>63</sup>

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57. *Jesuit Relations and Allied Documents*, 12: 16.

58. *Jesuit Relations and Allied Documents*, 12: 17-23.

59. *Jesuit Relations and Allied Documents*, 12: 23.

60. *Jesuit Relations and Allied Documents*, 33: 145.

61. *Jesuit Relations and Allied Documents*, 33: 145-7.

62. *Jesuit Relations and Allied Documents*, 33: 217.

63. *Jesuit Relations and Allied Documents*, 33: 209.

### Comets and Charms: The Traditional World-view Asserts Itself

Alongside the theologically based disdain for the disinterested study of nature and the rationalist criticism of native practice, some of the first Jesuits in New France also demonstrated adherence to the traditional view of God and nature. These Jesuits retained a belief, despite intellectual and theological reservations, that the world was enchanted, a stage for divine (but not diabolical) intervention. Such beliefs seem to be affirmed with their concern to utilize the sacramental power of relics, and their sense that comets portend events on earth.<sup>64</sup>

Yet close examination of these assertions of traditional belief suggests that the enchanted was preserved within a more tightly defined view of the religious sphere, and that its appearance in New France was less spontaneous than rule-bound and ritualized and, moreover, evidence of a tension in the Jesuit world-view. For French Jesuits, God was evidently omnipotent, author and master of the universe. As Louis Lallemant had argued, however, God's action was most powerfully felt on the level of soul, not universe.

But Jesuits were, all the while, working within the overall framework of a Catholicism which took seriously physical manifestations of the divine. Alongside their comparative intellectual adventurousness and connection to the emerging culture of rationalism, then, Jesuits represented reformed Catholicism, whose rules had been set out by the Council of Trent (1545-63). Trent was a conservative force, preserving orthodoxy in the face of protestant criticism and waning adherence among Catholics themselves. Thus the Council affirmed doctrines of the real presence, the intercessory powers of the saints, and the existence of miracles – all of which emphasized faith's victory over reason, and the utter superiority of God over nature. But the Council was not indiscriminate, and in no way did it sanction the wide-open interpretation of the spirit in the world. Instead, it proposed the regulation of traditional credulity: the tighter definition of what constituted miracle.<sup>65</sup> Indeed by inquiring into the precise qualities of miracle, Trent revealed that it too had moved from the traditionally enchanted view of the universe toward a religious scheme whereby nature was subject to knowable natural laws and not to arbitrary divine intervention.

The importation and veneration of holy relics in New France indicates traditional credulity.<sup>66</sup> So too do the whole range of shamanistic performances offered by Jesuits themselves, as they attempted to co-opt native magic for the purposes of demonstrating

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64. Dominique Deslandres, "Des reliques comme vecteur d'acculturation au XVII<sup>e</sup> siècle," *Proceedings of the Annual Meeting of the Western Society for French History* 20 (1993): 93-108.

65. Peter Burke, *The Historical Anthropology of Early Modern Italy* (Cambridge, 1987), 48-62. For the changing reception of miracles, see Lorraine Daston, "Marvelous Facts and Miraculous Evidence in Early Modern Europe," *Critical Inquiry* 18 (1991), 93-124.

66. Professor Deslandres has noted 37 mentions from Jesuit and Ursuline records from 1611 to 1700. Dominique Deslandres, "Des reliques comme vecteur d'acculturation," 105-6.



the greater power of their God.<sup>67</sup> And both comets and earthquakes could upset the rationalist outlook: Jérôme Lallemant viewed a winter-time comet in 1661 as an "astre de mauvais augure" soon to be followed by terrestrial disorders.<sup>68</sup>

Yet the incidents of traditional religiosity affecting views of natural phenomena are sufficiently rare among first-generation Jesuits to warrant the status of exceptions to a general tendency towards rationalism. The traditional sense of the enchanted world as a theatre of cosmic instruction operated within a framework which was biased towards the rational, the concrete and the empirical. In the missionary mind, the supernatural was more potent when confined to the proper sacraments.

### On the Brink of Modernity

A world without the orchestrated intervention of evil is a world that can be known. Knowledge will come from observation and not from revelation.<sup>69</sup> The Jesuit experience in the Canadian mission field reveals intelligent men searching for the supernatural, but increasingly sceptical of its intervention in this wilderness world. Miracle was confined to the total transformation that attended baptism. Religious rationalism reduced the problem of the pagan *sauvage* to one of faith; it left explanation of other phenomena to science, if not common sense, but in either case penetrable by reason.

The first generation of Jesuit missionaries to New France could not have lived up to Chateaubriand's Enlightenment billing as champions of a new natural history. Their demonstration of scientific interest was limited. Scientific activity itself was a unaffordable luxury in the early days of the Canadian mission. While missionaries in South and East Asia deployed the apparatus of science, Jesuits in Canada had less need: their challenge was to teach these boreal peoples the rudiments of an alien belief system as encoded in alien cultural practices. Epidemics and war meant that such a project operated in an atmosphere of prolonged crisis. The missionaries' obsession with sin occluded the disinterested investigation of nature, in the sense of a non-human autonomous sphere. However, to the extent that they harnessed this obsession in an analytical framework, Jesuits demonstrate an outlook that is consonant with emerging empiricism and rationalism in 17th-century western Europe. Jesuits, if not sceptics in the academic sense, expressed a doubting method as modern as the certainty of *scientia*. As their supernatural world was found to be vacant, the Amerindians were comprehended as products of a forsaken environment. As *sauvages*, they joined the European world on a modern footing, while the wilderness around them was left undisturbed, if no longer demonized, awaiting later discovery.

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67. Denis Delâge outlines the dynamic of competing religious systems in "Les principaux paradigmes de l'histoire amérindienne et l'étude de l'alliance franco-amérindienne aux XVII<sup>e</sup> et XVIII<sup>e</sup> siècles," *International Journal of Canadian Studies/Revue internationale d'études canadiennes* 12 (1995): 60-2.

68. *Jesuit Relations and Allied Documents*, 46: 204.

69. Paul Hazard, *The European Mind 1680-1715*, trans. J.L. May (Cleveland, 1964), 119-79.